What is claimed is:

1. A self-expanding aneurysm cover comprising:

a small diameter, skeletal, tubular member having a thin wall and having a proximal end and a distal end;

said wall of said tubular member comprising a plurality of cells which are formed by a plurality of interconnected, generally undulating members and a plurality of rows of single-strand, unbranched struts;

said undulating members extending generally in the same direction as the longitudinal axis of said tubular member, said undulating members being generally parallel to each other, forming a plurality of parallel rows;

each undulating member having a positive peak and a negative peak;

each strut having a proximal end and a distal end;

said undulating members and said struts within a row being interconnected and having a repeating pattern in which the ends of said strut are respectively attached to the positive and negative peaks of adjacent undulating members, with adjacent struts extending in the same direction in the same row.

2. The aneurysm cover of claim 1 in which said struts of adjacent rows extend transversely to each other.

3. The aneurysm cover of claim 1 in which each of said undulating members has a plurality of positive peaks and negative peaks arranged in alternating order.

4. The aneurysm cover of claim 3 in which said struts of adjacent rows extend transversely to each other.

5. A self-expanding aneurysm cover as defined in claim 1 in which said skeletal, tubular member has a small, compressed diameter for delivery within a vessel and a normally biased, expanded diameter for retaining said tubular member against the walls of a vessel and arranged whereby, when said skeletal, tubular member is compressed to its small diameter, the positive and negative peaks of said undulating members pull upon the proximal ends of said struts, and the distal ends of said struts pull upon positive and negative peaks of adjacent undulating members, causing said cells of said tubular member to collapse and thereby causing said tubular member to obtain said small diameter.

6. A self-expanding aneurysm cover as defined in claim 1, wherein said skeletal, tubular member includes at least two proximal legs, said proximal legs extending generally parallel to the longitudinal axis of said tubular member, and being attached to the proximal end of said skeletal, tubular member, at least one proximal leg including a T-shaped attachment flange.

7. A self-expanding aneurysm cover as defined in claim 6, wherein said proximal legs are biased outwardly from the longitudinal axis of said skeletal, tubular member.

8. A self-expanding aneurysm cover as defined in claim 6, wherein said proximal legs include a radiopaque marker.

9. A self-expanding aneurysm cover as defined in claim 1, wherein said tubular member includes at least one distal leg, said distal leg extending generally parallel to the longitudinal axis of said tubular member and being attached to the distal end of said skeletal, tubular member.

10. A self-expanding aneurysm cover as defined in claim 9, wherein said distal leg includes a radiopaque marker.

11. A self-expanding aneurysm cover as defined in claim 1, wherein said skeletal, tubular member is constructed from a nickel-titanium alloy.

12. A self-expanding aneurysm cover as defined in claim 2, wherein said skeletal, tubular member includes at least two proximal legs, said proximal legs extending generally parallel to the longitudinal axis of said tubular member, and are attached to the proximal end of said skeletal tubular member, at least one proximal end including a T-shaped attachment flange.

13. A self-expanding aneurysm cover as defined in claim 12, wherein said proximal legs are biased outwardly from the longitudinal axis of said skeletal, tubular member.

14. A self-expanding aneurysm cover as defined in claim 12, wherein said proximal legs include a radiopaque marker.

15. A self-expanding aneurysm cover as defined in claim 11, wherein one of said legs includes a radiopaque marker.

16. A self-expanding stent device comprising:

a small diameter, skeletal tubular member having a thin wall and having a proximal end and a distal end;

said wall of said tubular member comprised of a plurality of cells which are formed by a plurality of generally undulating members and a plurality of single strand, unbranched struts;

said struts interconnecting the undulating members, in which said undulating members are generally parallel with the longitudinal axis of said tubular member and are generally parallel to each other;

each undulating member has a positive peak and a negative peak;

each strut has a proximal end and a distal end;

a first undulating member and said struts within a first row have a repeating pattern in which the proximal ends of each of said struts are attached to negative peaks of said undulating member and the distal ends of each of said struts of said first row are attached to positive peaks of a second, adjacent undulating member, and the proximal ends of an adjacent row of struts are attached to positive peaks of said first undulating member;

and the distal ends of each of said struts of said adjacent row are attached to negative peaks of a third, adjacent undulating member;

the struts in each row extending in the same direction, and the struts in adjacent rows extending transversely to each other.

17. The aneurism cover of claim 16 in which each of said undulating members has a plurality of positive peaks and negative peaks arranged in alternating order.

18. A self-expanding aneurysm cover as defined in claim 16 in which said skeletal, tubular member has a small, compressed diameter for delivery within a vessel and a normally biased, expanded diameter for retaining said tubular member against the walls of a vessel and arranged whereby, when said skeletal, tubular member is compressed to its small diameter, the positive and negative peaks of said undulating members pull upon the proximal ends of said struts, and the distal ends of said struts pull upon positive and negative peaks of adjacent undulating members, causing said cells of said tubular member to collapse and thereby causing said tubular member to obtain said small diameter.

19. A self-expanding aneurysm cover as defined in claim 16, wherein said skeletal, tubular member includes at least two proximal legs, said proximal legs extending generally parallel to the longitudinal axis of said tubular member, and being attached to the proximal end

of said skeletal, tubular member, at least one proximal leg including a T-shaped attachment flange.

20. A self-expanding aneurysm cover as defined in claim 19, wherein said proximal legs are biased outwardly from the longitudinal axis of said skeletal, tubular member.

21. A self-expanding aneurysm cover as defined in claim 19, wherein said proximal legs include a radiopaque marker.

22. A self-expanding aneurysm cover as defined in claim 16, wherein said tubular member includes at least one distal leg, said distal leg extending generally parallel to the longitudinal axis of said tubular member and being attached to the distal end of said skeletal, tubular member.

23. A self-expanding aneurysm cover as defined in claim 22, wherein said distal leg includes a radiopaque marker.

24. A self-expanding aneurysm cover as defined in claim 16, wherein said skeletal, tubular member is constructed from a nickel-titanium alloy.